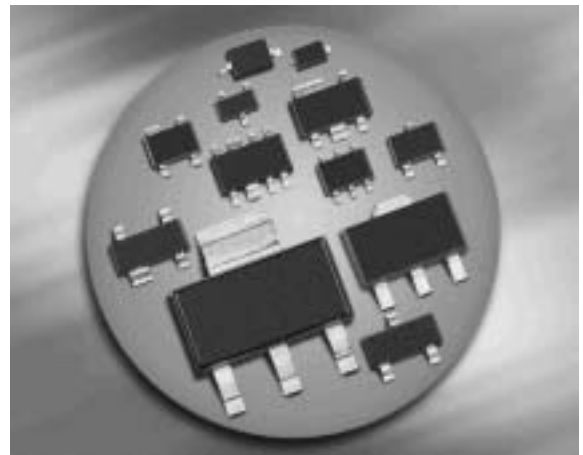
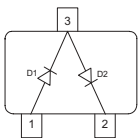
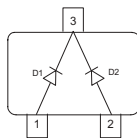
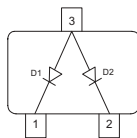
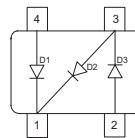


Silicon PIN Diode

- RF switch, RF attenuator for frequencies above 10 MHz
- Low distortion faktor
- Long-term stability of electrical characteristics
- Pb-free (RoHS compliant) package¹⁾
- Qualified according AEC Q101


BAR14-1

BAR15-1

BAR16-1

BAR61


Type	Package	Configuration	L_S (nH)	Marking
BAR14-1	SOT23	series	1.8	L7s
BAR15-1	SOT23	common cathode	1.8	L8s
BAR16-1	SOT23	common anode	1.8	L9s
BAR61	SOT143	PI element	2	61s

Maximum Ratings at $T_A = 25^\circ\text{C}$, unless otherwise specified

Parameter	Symbol	Value	Unit
Diode reverse voltage	V_R	100	V
Forward current	I_F	140	mA
Total power dissipation $T_S \leq 65^\circ\text{C}$	P_{tot}	250	mW
Junction temperature	T_j	150	$^\circ\text{C}$
Operating temperature range	T_{op}	-55 ... 125	
Storage temperature	T_{stg}	-55 ... 150	

Thermal Resistance

Parameter	Symbol	Value	Unit
Junction - soldering point ²⁾	R_{thJS}	≤ 340	K/W

¹⁾Pb-containing package may be available upon special request

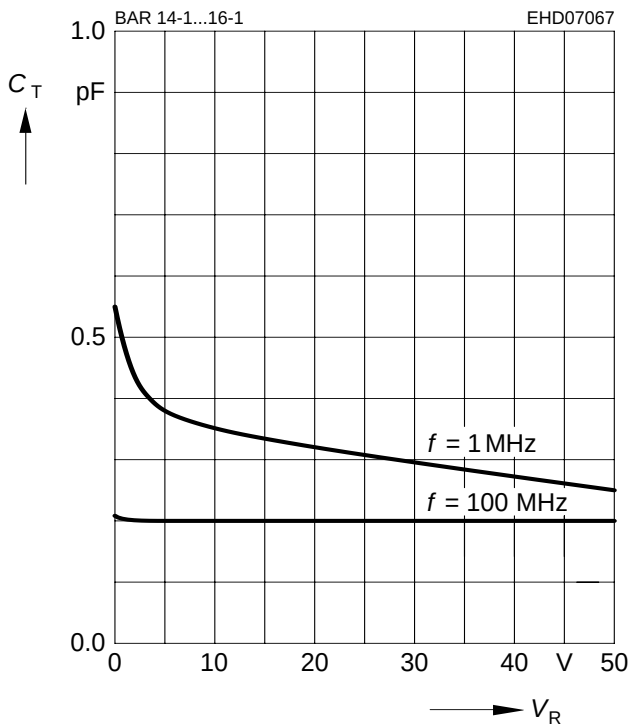
²⁾For calculation of R_{thJA} please refer to Application Note Thermal Resistance

Electrical Characteristics at $T_A = 25^\circ\text{C}$, unless otherwise specified

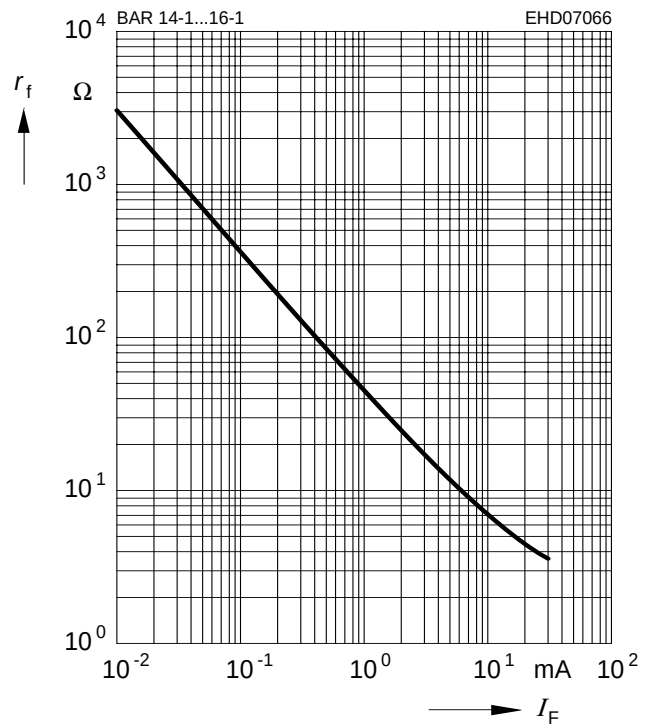
Parameter	Symbol	Values			Unit
		min.	typ.	max.	
DC Characteristics					
Reverse current $V_R = 50\text{ V}$ $V_R = 100\text{ V}$	I_R	- - -	- - -	100 1000	nA
Forward voltage $I_F = 100\text{ mA}$	V_F	-	1.05	1.25	V
AC Characteristics					
Diode capacitance $V_R = 0\text{ V}, f = 100\text{ MHz}$ $V_R = 50\text{ V}, f = 1\text{ MHz}$	C_T	- - -	0.2 0.25	0.5 0.5	pF
Zero bias conductance $V_R = 0\text{ V}, f = 100\text{ MHz}$	g_P	-	50	100	μS
Forward resistance $I_F = 0.01\text{ mA}, f = 100\text{ MHz}$ $I_F = 0.1\text{ mA}, f = 100\text{ MHz}$ $I_F = 1\text{ mA}, f = 100\text{ MHz}$ $I_F = 10\text{ mA}, f = 100\text{ MHz}$	r_f	- 300 35 5.5	2600 470 55 8	4200 - 85 12	Ω
Charge carrier life time $I_F = 10\text{ mA}, I_R = 6\text{ mA}$, measured at $I_R = 3\text{ mA}$, $R_L = 100\text{ }\Omega$	τ_{rr}	700	1000	-	ns
I-region width	W_I	-	146	-	μm

Diode capacitance $C_T = f(V_R)$

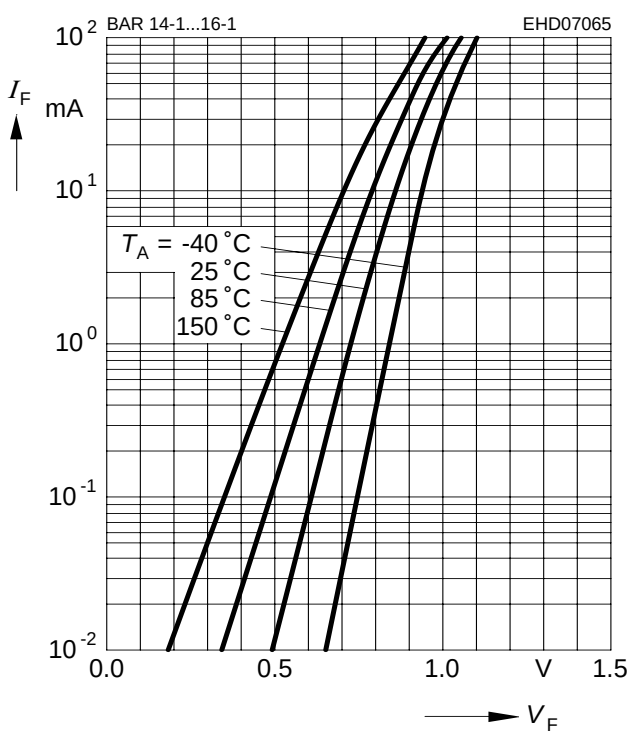
$f =$ Parameter


Forward resistance $r_f = f(I_F)$

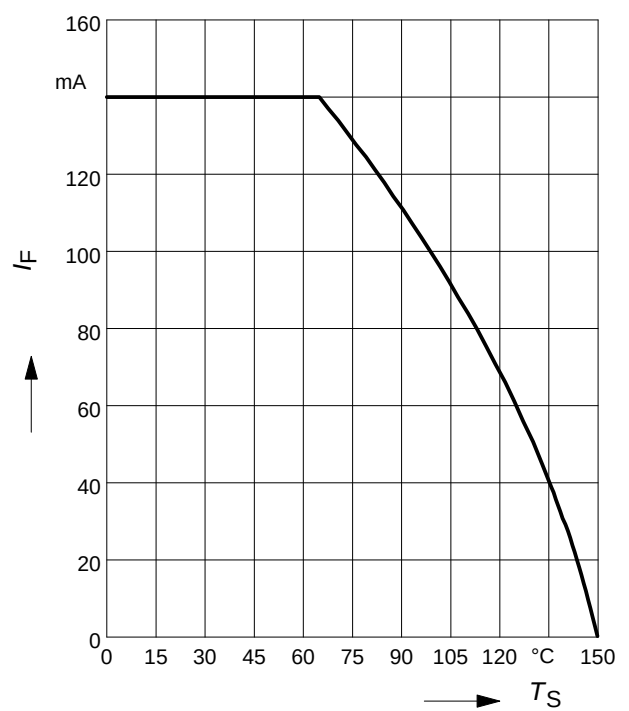
$f = 100 \text{ MHz}$

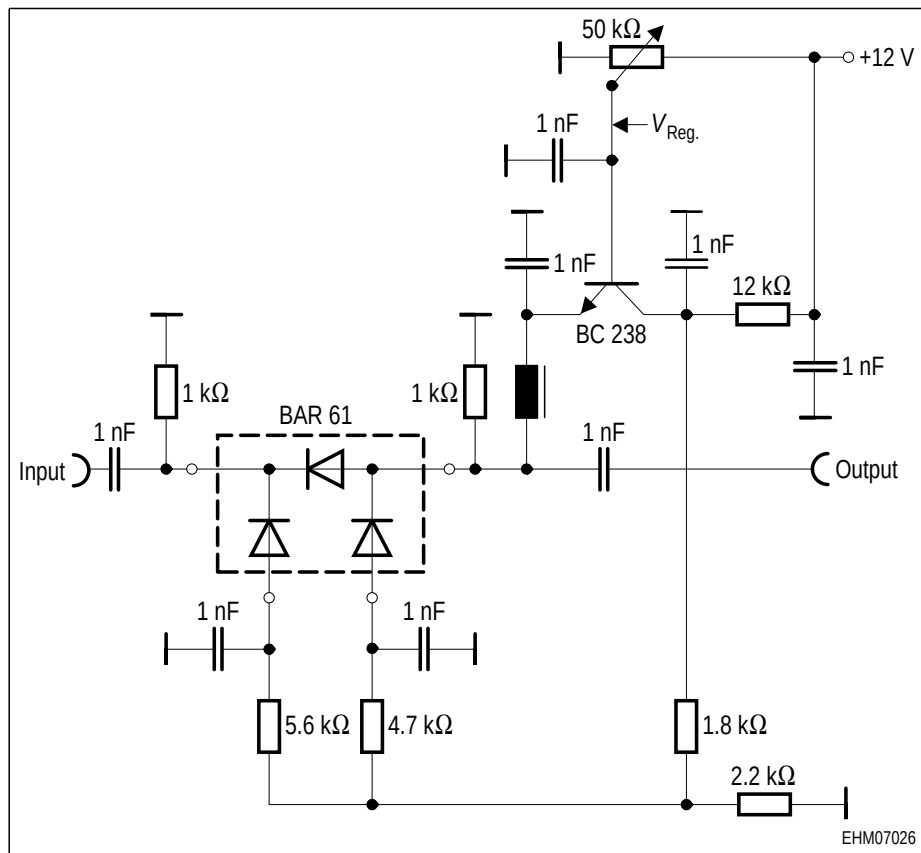

Forward current $I_F = f(V_F)$

$T_A = 25^\circ\text{C}$

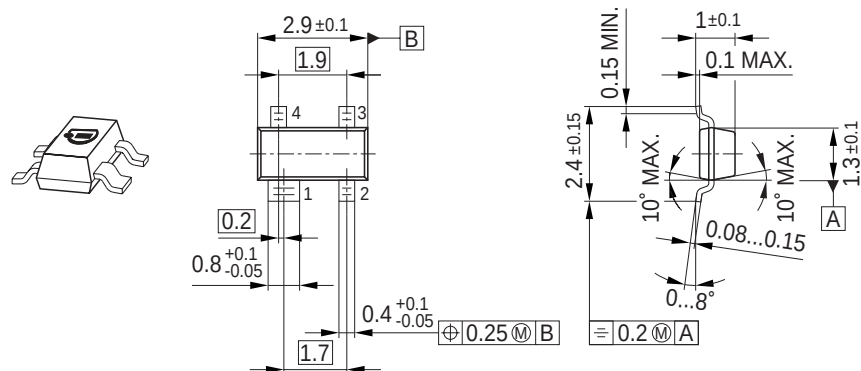

Forward current $I_F = f(T_S)$

BAR14-1, BAR15-1, BAR16-1

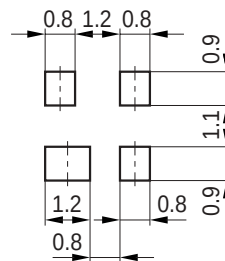


Application circuit for attenuation networks with diode BAR61


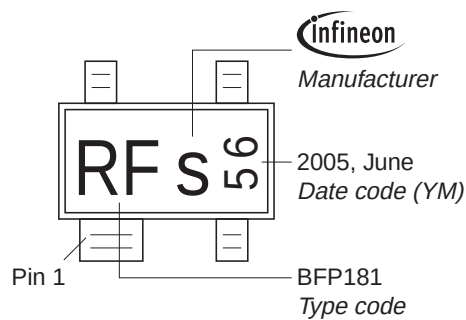
Package Outline



Foot Print

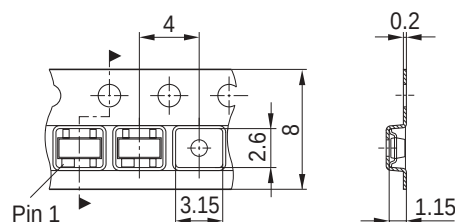


Marking Layout (Example)

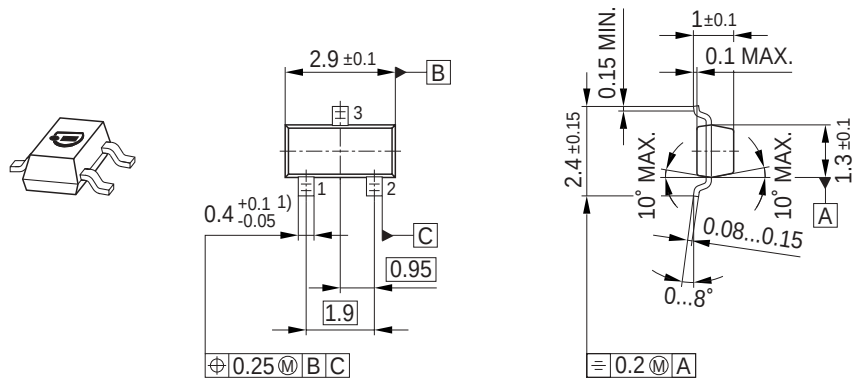


Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
 Reel ø330 mm = 10.000 Pieces/Reel

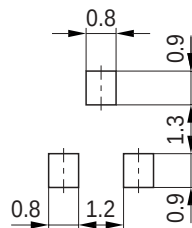


Package Outline

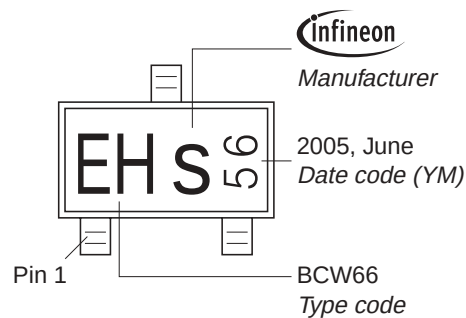


1) Lead width can be 0.6 max. in dambar area

Foot Print

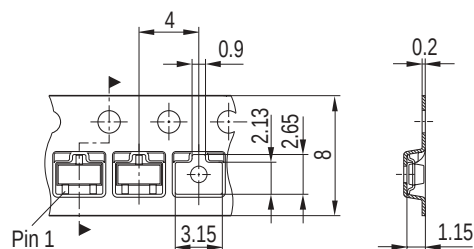


Marking Layout (Example)



Standard Packing

Reel ø180 mm = 3.000 Pieces/Reel
Reel ø330 mm = 10.000 Pieces/Reel



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